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CATTLE LICE: HOW TO CONTROL THEM

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CATTLE LICE: HOW TO CONTROL THEM

Three species of bloodsucking lice[1] and a biting louse[2] attack cattle. The bloodsucking lice feed by piercing the animal's skin and drawing blood. Biting lice feed on particles of hair, scurf, and excretions from the skin.

- Heavily infested animals may be weakened by blood losses to the point where they may die or become more susceptible to disease.
- Lice keep beef cattle from making maximum weight gains. Heavy infestations reduce milk production of dairy cattle by 10 percent or more.

These lice occur in most of the areas of the United States where cattle are raised, and are present the year round.

Infestations of lice are usually light in the summer and early fall but increase rapidly during the winter and spring. It is therefore especially important to inspect cattle for lice and treat them in the fall to delay and minimize the buildup of infestations during the colder months. Inspect your cattle periodically throughout the winter and spring and re-treat them as necessary to keep the lice under control.

Louse infestations usually decline greatly during the late spring and summer months, but some animals may continue to harbor damaging numbers of lice. Such animals should be treated as necessary to control the lice.

CHOICE OF INSECTICIDE

Insecticides that are effective in controlling cattle lice are rotenone, pyrethrum, Ciodrin, coumaphos, dioxathion, lindane, malathion, methoxychlor, ronnel, carbaryl, toxaphene, and Ruelene.[3]

Your choice depends on whether you are going to treat beef cattle or dairy cattle, and on whether you wish to apply the insecticide as a spray, dip, or dust, or with rubbing devices.

Recommendations for beef cattle differ from those for dairy cattle because some insecticides may be secreted in milk.

For beef cattle

- Spray with any of the recommended insecticides.

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[1] *Linognathus vituli, Haematopinus eurysternus, Solenopotes capillatus.*

[2] *Bovicola bovis.*

[3] Mention of a proprietary product in this publication does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture, and does not imply its approval by the Department to the exclusion of other products that may also be suitable.

- Dip with coumaphos, dioxathion, lindane, ronnel, or toxaphene.
- Dust with lindane, malathion, methoxychlor, toxaphene, or rotenone.
- With rubbing devices, use Ciodrin, methoxychlor, malathion, ronnel, dioxathion, or toxaphene.

For dairy cattle

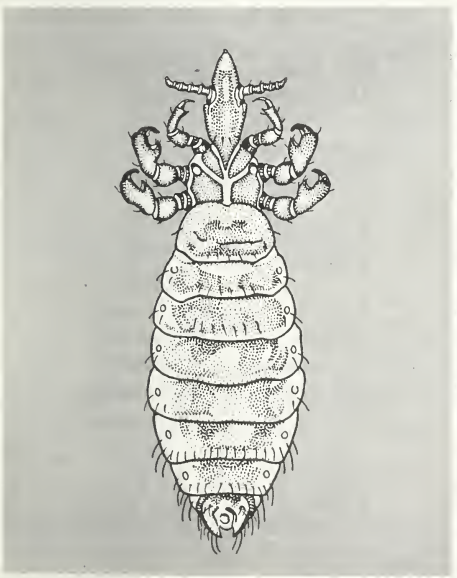
- Spray with Ciodrin, rotenone, or pyrethrum.
- Dust with rotenone.
- With rubbing devices, use Ciodrin.

SPRAYS

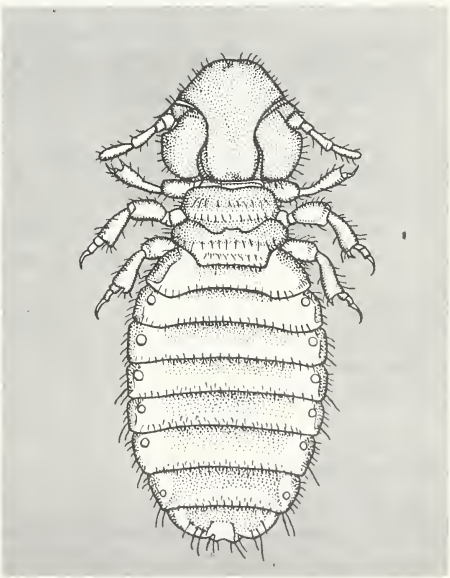
Preparation

Most sprays are prepared by mixing an emulsifiable liquid or a wettable powder with water. All the recommended insecticides except rotenone, carbaryl, Ciodrin, Ruelene, and dioxathion may be purchased in both these forms. Rotenone is available as derris or cube powder, which can be used as a dust or mixed with water for spraying. Carbaryl is available as a 50-percent wettable powder and as an 80-percent sprayable powder. If you use it, follow instructions on the label. Ruelene, Ciodrin, and dioxathion are available only as emulsifiable concentrates.

The accompanying table lists the formulations from which sprays may be prepared, the recommended strength of the finished spray, and the amount of each product to mix with water to make a spray of that strength. (Products on the market contain various percentages of insecticide. If you buy a product in which the percentage of insecticide differs from that stated in the first



Bloodsucking louse.



Biting louse.

column of the table, mix proportionately more or less of it with water.)

Lindane sprays applied to animals over 1 year old may contain 0.03 to 0.05 percent of insecticide; those applied to younger animals must not exceed 0.03 percent.

Apply all other sprays only at the recommended concentration of insecticide. Stronger sprays may injure animals.

Guide for Mixing Sprays

Insecticide, formulation,[1] and strength	Percentage of insecticide desired in spray	Amount of formulation to mix with water	
		100 gallons	5 gallons
ROTENONE:			
Derris or cube powder containing 5 percent of rotenone.	0.006	1 pound	5 level tablespoons.
PYRETHRUM: EC, 1 percent[2]	.025	2½ gallons	16 fl. ounces.
METHOXYCHLOR:			
EC, 25 percent	.5	2 gallons	13 fl. ounces.
WP, 50 percent	.5	8 pounds	6½ ounces.
LINDANE:			
EC, 20 percent	.03	1¼ pints	2 level tablespoons.
	.05	1 quart	3 level tablespoons.
WP, 25 percent	.03	1 pound	3 level tablespoons.
	.05	1⅔ pounds	5 level tablespoons.
TOXAPHENE:			
EC, 60 percent	.5	5½ pints	4½ fl. ounces.
WP, 40 percent	.5	10 pounds	8 ounces.
MALATHION:			
EC, 57 percent	.5	1 gallon	6 fl. ounces.
WP, 25 percent	.5	16 pounds	13 ounces.
COUMAPHOS:			
EC, 11.6 percent	.06	2 quarts	3¼ fl. ounces.
WP, 25 percent	.06	2 pounds	3¼ level tablespoons.
RONNEL: EC, 24 precent	.25	1 gallon	6½ fl. ounces.
CARBARYL: WP, 50 percent	.5	8 pounds	6½ ounces.
RUELENE: EC, 25 percent	.375	1½ gallons	10 fl. ounces.
CIODRIN: EC, 47 percent	.25	2 quarts	3⅓ fl. ounces.
	.5	8⅓ pints	7 fl. ounces.
DIOXATHION:			
EC, 47 percent	.15	2⅔ pints	2 fl. ounces.
EC, 30 percent	.15	2 quarts	2½ fl. ounces.

[1] EC=emulsifiable concentrate; WP=wettable powder.

[2] Refers to pyrethrins content. Pyrethrum formulations contain a synergist to improve effectiveness.

Application

Apply enough spray to thoroughly wet the animals to the skin. The size of the animal and the length of its hair will determine the amount of spray needed. Complete coverage may require 2 to 4 gallons for mature animals in winter coat. Two to 4 quarts usually is sufficient to treat short-haired cattle.

Follow instructions on the label of the product you use; the amount of spray required by these instructions may vary from our recommendations.

For treating a few animals, use a cylindrical air-pressure or knapsack sprayer that holds 2 to 3 gallons. Shake such sprayers occasionally to assure a properly mixed spray.

For large herds, power sprayers are more economical and do the job faster than hand equipment. Operate the sprayer at a pressure of 100 to 200 pounds per square inch.

One thorough treatment with rotenone or pyrethrum usually provides temporary control. A second treatment after 12 to 16 days is usually necessary.

DIPS

Use ronnel, dioxathion, coumaphos, and toxaphene as dips at the same strength as sprays and prepare them from the same ingredients. Use lindane only at a 0.03-percent concentration in dips. (See chart on page 4 for amount of each insecticide to use in preparing a spray or dip.)

Some of these preparations recommended for controlling lice also can be used in the summer for controlling flies.

However, regular back treatments as applied for fly control may not destroy all lice.

When making the last fly-control treatments in the fall, spray the animals all over rather than on the back only. This will retard the fall buildup of lice and reduce the number of treatments during the winter.

Usually, one dipping with an insecticide gives good control. If necessary, repeat the dipping in 2 weeks.

Use only formulations approved for use on livestock. Formulations that do not remain evenly dispersed in dipping vats may injure animals (if the insecticide rises to the top of the vat) or give ineffective control (if the insecticide settles to the bottom).

There are spray-dip machines or walk-through sprayers in which the spray run-off is returned to the pump to be used again. These may be used instead of dipping vats.

DUSTS

Dusts are less effective than sprays or dips because they do not readily penetrate long, dense hair; but they are useful in cold weather when wetting animals may be injurious.

Use any of the following dusts on *beef cattle:* Lindane and rotenone, 1 percent; malathion, 4 or 5 percent; toxaphene, 5 percent; and methoxychlor, 10 percent. These products are generally available in the strengths indicated.

Use only 1-percent rotenone dust on *dairy cattle.*

Apply about 6 ounces of dust to each mature animal, with any available duster. Rub the animals by hand, if necessary, to disperse the powder through thick hair.

Several treatments at 2-week intervals usually are needed for satisfactory control of lice.

SELF-TREATMENT DEVICES

Several types of self-treatment devices are available commercially. Complete instructions on their use are given on labels or in accompanying booklets.

You can make a satisfactory self-treatment device at little cost. It may consist of a post or a cable wrapped with burlap bags. The bags are treated with insecticide, and cattle treat themselves when they rub against them.

This method of reducing infestations of cattle lice is not as effective as sprays or dips but has advantages of low cost and ease of treatment.

To make a cable-type rubbing device, hang a chain or several strands of heavy wire at a height of 4 feet between two posts that are 15 to 20 feet apart. Let it sag to about 18 inches above the ground midway between the posts. Or, run the cable from the top of a 4-foot post to an anchor post at ground level 15 to 20 feet away.

Place rubbing devices near a salt or water trough, or in an area where cattle loaf or rest. Install them early in the fall before lice become numerous. If you wait until heavy infestations have developed, they may not provide satisfactory control.

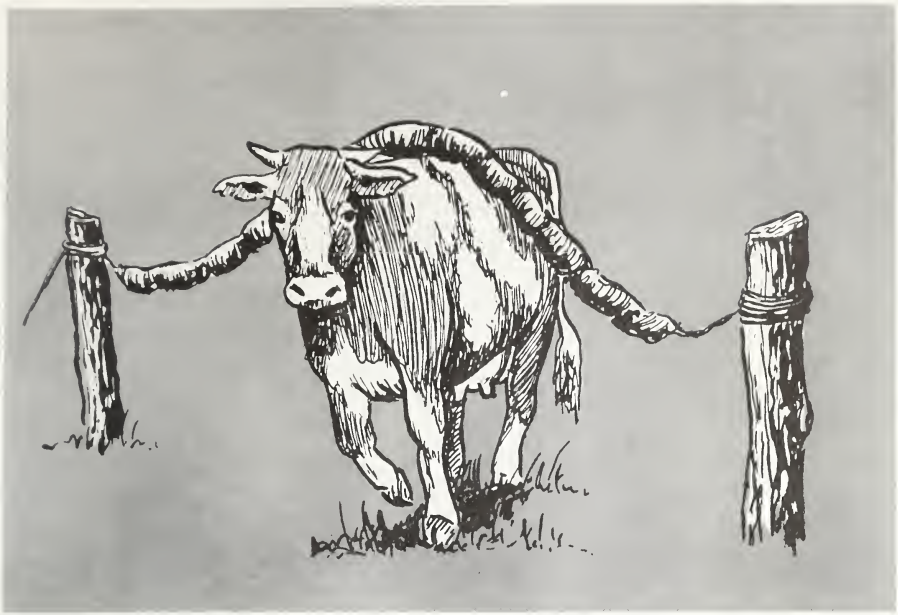
For beef cattle only, treat the burlap wrapping with an oil or kerosene solution containing 5 percent of toxaphene or methoxychlor, 1 percent of ronnel or Ciodrin, 1.5 percent of dioxathion, or 2 percent of malathion. One gallon will treat 15 to 20 feet of wrapping. Re-treat the wrapping every 3 or 4 weeks.

To prepare a solution of proper strength, mix an emulsifiable concentrate of one of the insecticides with fuel oil or kerosene in the proportion indicated below.

Emulsifiable Liquid:	*Amount to mix with 1 gallon oil*
Toxaphene, 60 percent	9 ounces.
Methoxychlor, 25 percent	1½ pints.
Malathion, 57 percent	4½ ounces.
Ciodrin, 47 percent	2¼ ounces.
Dioxathion, 30 percent	6 ounces.
Ronnel, 24 percent	5 ounces.

PRECAUTIONS

Insecticides used improperly can be injurious to man and animals. Handle them with care and avoid unnecessary exposure to them. Use them only when needed.



A low-cost rubbing device will reduce infestation of lice on beef cattle.

Follow the directions and heed all precautions on the container label.

- If you spill an insecticide on your skin or clothing, remove contaminated clothing immediately and wash your skin thoroughly with soap and water. Launder the clothing before wearing again.
- Wear a mask when dusting cattle. Wear rubber gloves while rubbing the dust into the hair by hand.
- Keep insecticides in a dry place in closed, well-labeled containers. Store them out of reach of children, pets, and livestock.
- To protect fish and wildlife, do not contaminate streams, lakes, or ponds with the insecticides.
- Do not use a spray or dip if an oily or gummy layer forms after mixing.
- Do not use any insecticides in higher concentrations than those recommended.
- Do not contaminate feed, feed containers, or watering troughs with insecticides.
- Do not spray or dip recently weaned calves in bad weather. The exposure may kill them.
- Do not use oil sprays on cattle.
- Bury empty insecticide containers in a sanitary land-fill dump, or crush and bury them at a depth of at least 18 inches in a level, isolated place where they will not contaminate water supplies.
- Do not use lindane, dioxathion, Ruelene, toxaphene, methoxychlor, coumaphos, ronnel, or malathion on dairy cattle.

- Thoroughly mix insecticides before beginning treatment or resuming it after interruption. Otherwise some animals may receive too much for safety or too little for adequate louse control.
- Use of certain of the insecticides must be discontinued a specified number of days before slaughter. The following shows the number of days that must elapse between the last use of insecticide and slaughter:

	Days
Lindane, *spray* or *dust*	30
Lindane, *dip*	60
Ruelene	28
Toxaphene	28
Ronnel	56
Carbaryl	7

- Do not apply Ciodrin sprays oftener than once a week; do not reapply ronnel or dioxathion within 2 weeks.
- Do not dip calves less than 3 months old in dioxathion. Do not use malathion on calves less than 1 month old.
- Do not treat animals less than 3 months old with coumaphos; spray animals 3 to 6 months old lightly. Do not use coumaphos with synergized pyrethrins, allethrin, or synergist. Do not spray animals with coumaphos for 10 days before or after shipping or weaning or after exposure to disease. Do not apply in conjunction with oral drenches or other medications, such as phenothiazine.
- Do not use lindane on emaciated or lactating animals, or on animals less than 3 months old.
- Do not reapply carbaryl within 4 days.

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